lished I have repeatedly seen this bee visit these two species of plants, and in addition, the following: *Pentstemon pubescens*, *P. lævigatus*, *Pontederia cordata*, *Astragalus Canadensis*, and *Trifolium pratense*. It invariably, so far as my observation goes, slits the lower end of the corolla tube in order to reach the nectary. It is said to be the largest and most bulky of all known bees, the mouth parts being very highly organized. It appears to disdain to take its food in the usual slow fashion of other insects, but goes directly through the tissues to the nectary.

I have repeatedly observed the honey bee (*Apis mellifica* L.) visit all these plants, and it apparently prefers to take the nectar through the slits that have been made by the carpenter bee; but when it does not find a slit already made, it then goes to the mouth of the tube and visits the flower in the usual way, by entering at the mouth of the tube.

The common humble-bees are frequent visitors to all these, and many other flowers, but I have never seen them take the nectar in any other way than by the mouth of the corolla. *Bombus pennsylvanicus*, *B. americanorum* and *Apathus elatus* (the latter now thought to be the male of *B. americanorum*) are the only species which I have taken from flowers, and that have been certainly determined; but it is reasonable to conclude, from the strncture of their mouth-parts, that all the members of this genus take nectar in the same way.—JACOB SCHNECK, *Mt. Carmel, Ill.*

A new Ravenelia from Alabama.—In September, 1890, and during the autumn of 1891, the writer has collected at Auburn what proved to be an undescribed species of Ravenelia on *Cassia nictitans*. The species is remarkable for its great abundance on the stems and for the very long, fulvous pedicels of the teleutospores. It is characterized as follows:

Ravenelia Cassiæcola Atkinson, n. sp.—Caulicolous or hypophyllous. Sori on leaves one mm. or less, rotund or oblong; on stems oblong, irregular, confluent, sometimes covering space 1—10 cm. or more in length, frequently ambient, rupturing irregularly or longitudinally. Pseudo-peridium composed of closely cohering, irregularly angular, small cells, yellowish brown. Uredospores in mass appearing dirty yellowish white; singly, hyaline or dull yellow to fulvous, oval or rotund, minutely asperulate, 9–13×12–16 μ. Teleutospores in mass appearing black; singly, fulvous to dark brown; 30–100 μ, convex at free end, depressed where joined to pedicel, small ones rotund, composed of from 5–30 cuneate cells, their free ends frequently bearing a single hyaline, short spine; cells 18–23×20–30 μ; cystoid cells 5–15, rotund, hyaline or colored, rigid, 14–18 μ; pedicel fulvous, stout,

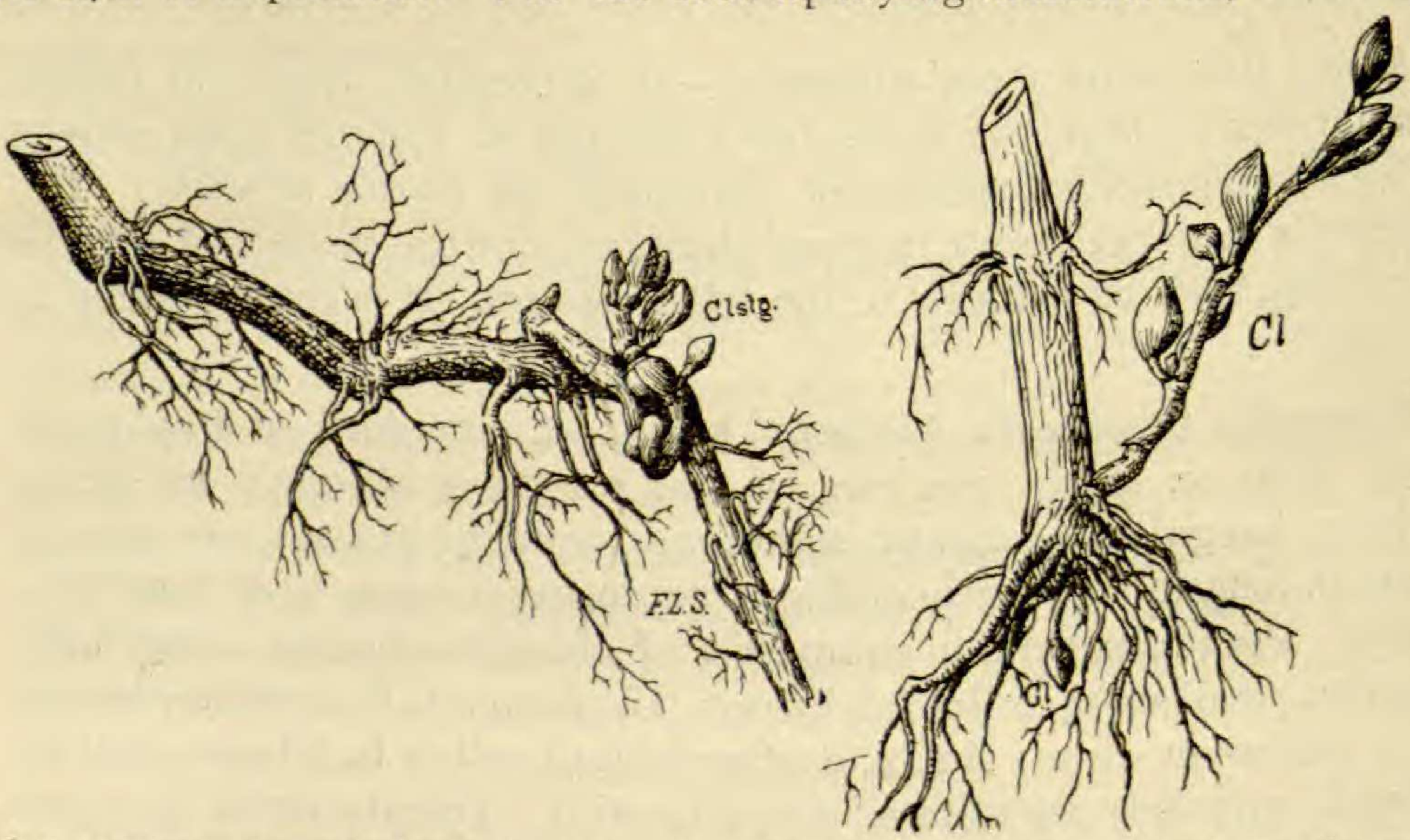
50–80 μ long.— On stems, leaves and pods of Cassia nictitans, Auburn, Ala., *Geo. F. Atkinson;* Starkville, Miss., *S. M. Tracy.*

Frequently there is very little of the fungus on the leaves, it being chiefly caulicolous. Occasionally it is abundant also on the leaves, but the sori are comparatively small. Sometimes all the sori on the leaves contain only uredospores, but again teleutospores as well.

I have had an opportunity of comparing this species with *R. stictica*, Berk. & Br., n. 554 Myc. Univ., *R. glandulæformis* Berk. & Cur., n. 1251 Myc. Univ., and *R. Texanus* Ell. & Galloway.

I have also collected at Auburn, during the month of September, 1891, *R. glandulæformis* B. & C. on *Tephrosia hispidula* and *Virginiana*, and my assistant, Mr. B. M. Duggar, has collected it on *Tephrosia spicata*. The specimens on Tephrosia Virginiana are of interest from the fact that the fungus is very abundant on the stems, the sori being longer and often confluent, presenting much the same appearance to the unaided eye as Ravenelia Cassiæcola on Cassia nictitans.— GEO. F. ATKINSON, *Department of Biology, Ala. Polyt. Inst., Auburn.*

Cleistogamy in Polygonum acre.—Apropos of Mr. Meehan's discovery of cleistogamy in Polygonum, I would record the observation of cleistogamous flowers on the same species, P. acre, at Knoxville, Tenn., on the 24th of September. For the accompanying illustrations, showing



the appearance of plants in question, I am indebted to Prof. Scribner. I have searched for cleistogamic flowers on other species of Polygonum, but without success.— T. H. KEARNEY, JR., *University of Tennessee.*

Mutilation of the flower of Tecoma radicans.— During the past twenty years I have frequently found flowers of our common Trumpet